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APPLICATION

Of

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For

UNITED STATES LETTERS PATENT

On

Barbell With Plural Hand Gripping Angles

Sheets of Drawings: Three

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TITLE: Barbell With Plural Hand Gripping Angles

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION:

This invention relates generally to weight lifting apparatus and more particularly to a barbell configuration having a choice of several hand positions for improved muscle orientation.

DESCRIPTION OF RELATED ART:

The prior art relative to the present invention is a linear or straight weight bar almost universally used in assembling weight-training barbells. Such a bar takes weights at its end positions and these are held in place by screw-set collars. Alternatives to the straight bar include slight modifications such as a "V" shaped portion at the center of the bar, and offset ends to assure that the bar tends to be more stable in use.

The prior art teaches the use of the straight bar, but does not teach the possibility of providing plural hand gripped portions to provide a selection of the hand angle most comfortable to the weight lifter. The present invention fulfills these needs and provides further related advantages as described in the following summary.

SUMMARY OF THE INVENTION

The present invention teaches certain benefits in construction and use which give rise to the objectives described below.

The commercial version of the present invention is trademarked: Masterbar System™ and consists of three different steel bars upon which iron weights/plates, standard in the weight

training industry, are loaded to increase resistance for various forms of weight training exercises. The Masterbar System includes: an arm bar, a back bar and bench bar. Unlike straight steel bars, which dominate the exercise equipment industry, these bars feature handles that make it possible to grip the bar 12 different ways by rotating the bar upon which the handles are attached. The handles are angled at 70 degrees to the axis of the frames, which hold them.

Twisting the hands to grasp a straight bar when performing the popular bench press, incline press, and decline press exercises impinges the muscles and tendons in the shoulder rotator cuff. Users of heavy weights in those movements often develop rotator cuff damage requiring surgical repair. Dumbbells are often used instead of a straight bar for those exercises since they can be held at various angles in relation to the chest, thereby relieving some rotator cuff stress. However, very heavy dumbbells become awkward to handle while positioning them to execute those exercises. A partner or helper is often necessary to hand dumbbells to the user already in position to perform the exercise. Without a partner dumbbells can also cause extreme stress to the rotator cuff when releasing them to the floor at the completion of the exercise. Also, dumbbells are not often available in weights over 150 pounds. Many users regularly bench press over 400 pounds for repetitions. In addition to delivering a new angle of training force which strengthens muscles from a different position/angle, the bench bar offers the shoulder the safety of a dumbbell and the convenience of a straight bar for independent training.

Curls are a popular exercise to develop strength and size of the biceps. Many variations are practiced, most using a straight bar similar to, but shorter than the bars used in the bench press and related exercises. The natural anatomical position of the hands resting at the sides of a standing subject is 180 degrees – straight up and down. Using a straight bar places intense and unusual pressure on the biceps because the hands must be twisted 90 degrees in order to hold the bar.

The arm bar is a smaller version of the bench bar and is engineered to deliver a more natural and ergonomically complimentary stress to the biceps. A standing subject with straight arms at the sides and hands relaxed, raising the arms forward to chest level, results with the hands angled naturally at approximately 70 degrees perpendicular to the vertical when the arms are 90 degrees in relation to chest. Like the bench bar, the arm bar is built with six, 70 degree angled handles. Twelve different grips become quickly and easily available by rotating the bar upon which the handles are attached. The latter grip exercises both the forearms and the biceps, adding yet another level of functionality to the bar.

Triceps presses are popular movements in the standing, sitting, incline, and decline positions used to exercise the triceps muscles of the upper arm. Holding the arm bar changes the angle of the forearm and the wrist normally used when performing that exercise using a straight bar, thereby introducing a more direct training force to the triceps.

Like the bench bar and the arm bar, the back bar is engineered to deliver a new form of training resistance force through angled handles. It attaches to any exercise machine designed with metal eyes at the end of a cable or chain upon which handles are attached in various ways; metal clips or u-bolts are common methods. Six angled handles offer users six new angles/degrees of resistance. Twelve grips become quickly and easily available by rotating the bar upon which the handles are attached and affixed to the selected exercise machine. Unlike the bench bar and the arm bar, two handles are mounted within the frame; the outside portion of the frame is also angled to match the handles and can be used as a handle as well. The back bar is designed to use any back, biceps, and triceps exercise, which can be done using straight bars, or other handle accessories used on exercise machines.

A primary objective of the present invention is to provide an apparatus and method of use of such apparatus that provides advantages not taught by the prior art.

Another objective is to provide such an invention capable of providing an improved, more ergonomic angle of grip for heavy weight lifting.

A further objective is to provide such an invention capable of reducing stresses on shoulder rotator cuff muscles during exercising.

A further objective is to provide such an invention capable of providing a choice of different grips.

A further objective is to provide such an invention capable of providing improved ergonomic compatibility with natural hand positioning for many exercises.

A further objective is to provide such an invention capable of strengthening wrist stabilizer muscles from the vertical position, an area of concern largely ignored by weight training specialists.

Other features and advantages of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings illustrate the present invention. In such drawings:

Figure 1 is a plan view of a first preferred embodiment of the invention;

Figure 2 is a plan view of a second preferred embodiment of the invention;

Figures 3 and 4 are perspective views of the first embodiment as used in a pull-down exercise wherein a resisting force is attached to the invention by a cable; and

Figure 5 is a perspective view of the second embodiment as used in a bench press type of exercise where the resisting force is acquired by placing weights on lateral bars of the invention.

DETAILED DESCRIPTION OF THE INVENTION

The above-described drawing figures illustrate the invention in at least one of its preferred embodiments, which is further defined in detail in the following description.

The present invention is a barbell apparatus made of steel rods, industrial pipe, etc., as for instance, those materials with high tensile strength and high yield. The apparatus is completed using welded construction, and comprises a pair of hand gripping bar portions 10 arranged end-to-end for defining a longitudinal axis 20 of the apparatus. Each of the hand gripping bar portions 10 provides a rectangular frame 30 defining a hand-gripping window 40. Positioned integrally within each of the hand gripping windows 40 is at least one linear cross bar 50 and preferably plural liner cross bars 50, and these are oriented at selected angles α relative to the longitudinal axis 20. It has been found that angle α is preferably 70 degrees, as this angle meets the needs of the widest number of weight lifters and exercise trainers. Because the cross bars 50 are positioned in pairs with plural spacings, the apparatus is able to be used to benefit by individuals with widely varying shoulder widths and natural hand orientations. As shown in Fig. 2, the selected angles α, may be identical for all crossbars 50, and in Fig. 1 it is shown that, these angles may be different, depending on the use of the apparatus. Clearly, the selected angles α may be orthogonal to the longitudinal axis 20, as seen in Fig 1, or non-orthogonal, as seen in Fig. 2.

In the preferred manner of making the invention, the hand gripping bar portions 10 are separated by an axially aligned and integral center linear bar portion 60, as seen in the figures, although, this bar 60 may be eliminated while still meeting the basic conceptual invention objectives. In a first embodiment of the invention, shown in Fig. 1, the center linear bar portion 60 engages a rotatable collar 70, the collar having an attachment means 80 fixed thereto such as an eyelet, although the attachment means 80 might also be a hook or any other mechanical fastening device, as would be understood by one of skill in the art. Such an attachment means 80 is used for engaging a cable 85, as seen in Figs. 3 and 4.

Alternately, the apparatus may be made as shown in Fig. 2, wherein a pair of linear weight engagement bars 90 are axially aligned and engaged in lateral positions relative to the hand gripping bar portions 10 for further engagement with weights 100 as shown in Fig. 6.

Alternately, the apparatus may be made as shown in Fig. 3, wherein the frame's outer portion assumes an angle α and may be used in the same manner as one of the gripping cross bars 50.

While the invention has been described with reference to at least one preferred embodiment, it is to be clearly understood by those skilled in the art that the invention is not limited thereto. Rather, the scope of the invention is to be interpreted only in conjunction with the appended claims.